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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,272	10/11/2001	Hyuck Yoo	020664-000310US	2264

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EXAMINER
LE, VU

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/977,272	YOO, HYUCK	
	Examiner	Art Unit	
	Vu Le	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7,16-19 and 22-24 is/are rejected.

7)☒ Claim(s) 8,11-15, 20-21 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 6-13-02.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, *except* that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English.

2. Claims 1-7, 9-10, 16-19, 22-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et al, US 6,499,060.

Re claim 1, Wang et al discloses a method of streaming video data ("Summary Of The Invention", fig. 3), comprising:

providing a plurality of frames to be transmitted from a video transmitter system to a video receiver system (300,302,304,306..., col. 7, lines 47-50);

categorizing the plurality of frames into a reference frame and a prediction frame (col. 7, line 59 to col. 8, line 26, in this segment, Wang et al discusses the reference frame as being an I unit at the beginning of the data stream or the immediately preceding data unit);

encoding the reference frame to be transmitted to the video receiver system using a zero run coding method (col. 9, lines 38-51, col. 10, lines 15-24, in these

segments, Wang et al discusses using DCT or wavelet/Huffman or arithmetic coding for reference unit that may be an immediately preceding data unit or an I data unit. Huffman coding is a specific form of zero run coding method);

transmitting the encoded reference frame to the video receiver system (358, col. 10, lines 35-37);

dividing the prediction frame into a plurality of blocks (col. 9, lines 44-48, in this segment, DCT or wavelet coding inherently divides the predicted data unit into a plurality of blocks or wavelets respectively);

determining whether any of the plurality of blocks needs to be transmitted to reproduce the prediction frame of acceptable quality at the video receiver system (312,314,330, col. 8, lines 1-7, col. 9, lines 22-51, in these segments, when changes between a prediction data unit and a reference data unit are so small, estimation is unnecessary. This indicates that the reference data unit may be used to encode said prediction data unit);

and transmitting to the video receiver system only the blocks that have been determined necessary to reproduce the prediction frame of acceptable quality at the video receiver system (312,314,330,332,334,354,356, col. 8, lines 1-25, col. 9, lines 22-51, with reference to the discussion in the preceding paragraph, furthermore, only predicted changes that are deemed large enough will be calculated for error, which is then encoded and transmitted).

Re claim 2, the method of claim 1, further comprising: marking the blocks of frame that have been determined as necessary to reproduce the prediction frame of

acceptable quality at the video receiver system (the limitations as claimed are inherent in Wang et al as discussed in claims 1 and 2 above. Also, in fig. 3 of Wang et al, the predictor "312" and the prediction unit "314" will identify which prediction data unit(s) needed to be prediction encoded "334" and transmitted "354,356").

Re claim 3, the method of claim 1, wherein there are at least one reference frame and first and second prediction frames, where the reference frame and the first prediction frame have been encoded for transmission to the video receiver system, wherein the determining step includes: comparing a block of the second prediction frame with a corresponding block of a comparison frame that has been previously encoded for transmission to the video receiver system (the limitations as claimed have been analyzed and rejected with respect to claims 1 and 2 above. It noted that the "comparing" step as claimed is carried out by the error calculator "330", fig. 3 of Wang et al, see col. 9, lines 22-50, the "reference" frame may be an I data unit or an immediately preceding data unit in Wang et al, and the "first" and "second" prediction frames may be any P data units in Wang et al).

Re claim 4, the method of claim 3, wherein the comparison frame is the reference frame (with reference to the discussion in claim 3, see also col. 9, lines 22-50, in this segment, error calculator "330" calculates the frame difference between a prediction data unit and a reference data unit which can be an I data unit or an immediately preceding data unit).

Re claim 5, the method of claim 3, wherein the comparison frame is the first prediction frame (with reference to the discussion in claim 3 above, the "first" prediction frame may be any P data unit in Wang et al).

Re claim 6, the method of claim 3, wherein the comparison frame is a frame that has been encoded for transmission immediately prior to the second prediction frame (with reference to the discussion in claim 3 above, the immediately preceding data unit discussed in Wang et al is this "comparison" frame as claimed).

Re claim 7, the method of claim 3, wherein the comparing step includes: obtaining a difference value D between a first value representing the block of the second prediction frame and a second value representing the corresponding block of the comparison frame (fig. 3: 330, col. 9, lines 1-9, lines 22-51).

Re claim 9, the method of claim 7, further comprising: comparing the difference value D to a first threshold value T1; and determining whether to transmit the block of the second prediction frame to the video receiver system according to a result of the comparing of the difference value D to the first threshold value T1 (col. 9, lines 22-37, col. 8, lines 1-7, in these segments, the error calculator "330" compares the error level i.e. difference value to a threshold. The result of this test determines of the error level is large enough i.e. larger than the threshold to be prediction encoded for transmission).

Re claim 10, the method of claim 9, wherein the block of the second prediction frame is marked for transmission to the video receiver system if the difference value D is greater than the first threshold value T1 (see discussion in claim 9 above).

Re claim 16, the method of claim 3, wherein the plurality of frame to be transmitted are categorized into only two types of frames (see fig. 1, it is clear in Wang et al that the input data stream can be classified into I and P frames only as claimed).

Re claims 17-18, the limitations as claimed have been analyzed and rejected with respect to claims 1-3 above.

Re claim 19, the limitations as claimed have been analyzed and rejected with respect to claims 1-3 and 9-10 above. Also see col. 9, lines 34-37.

Re claims 22-24, the limitations as claimed have been analyzed and rejected with respect to claims 3-6 above.

Allowable Subject Matter

3. Claims 8, 11-15, 20-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Re claim 8, the prior art of record fails to anticipate or render obvious the limitations of "further comprising: dividing the block of the second prediction frame into a first set of sub-blocks; obtaining a first set of representative values of the first set of sub-blocks; dividing the corresponding block of the comparison frame into a second set of sub-blocks; and obtaining a second set of representative values for the second set of sub-blocks, wherein the difference value D is obtained by subtracting one of the set of the representative values from the other set of the representative values" as claimed.

Claim 11 governs claims 12-15. The prior art of record fails to anticipate or render obvious the limitations of "further comprising: comparing the difference value D to a second threshold value T2; and determining whether to transmit a first set of blocks in close proximity to the block of the second prediction frame according to a result of the comparing the difference value D to the second threshold value" as claimed.

Claim 20 governs for claim 21. The prior art of record fails to anticipate or render obvious the limitations of "further comprising: comparing the difference value D to a second threshold value T2; and indicating a first set of blocks in close proximity to the block of the first prediction frame as needing to be transmitted to the video receiver system if the difference value D is greater than the second threshold value T2" as claimed.

Contact

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Le whose telephone number is 703-308-6613. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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